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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,933	09/23/2004	Petri Nenonen	915-005,123	9875
4955 7590 05/01/2008 WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN, BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468				
EXAMINER CHOWDHURY, AFROZA Y				
ART UNIT 2629		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/508,933

Applicant(s)

NENONEN, PETRI

Examiner

AFROZA Y. CHOWDHURY

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment received on **February 7, 2008** has been entered. Claims 1-22 are currently pending. Applicant's newly added claims and arguments are addressed herein below.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**image improvement unit**" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Art Unit: 2629

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1, 7, 11, and 20-22, there is no support for "... **determining a property of the digital image ...** " in the specification. The specification does not explain how a property of the digital image is determined.

Regarding claims 1, 7, 11, and 20-22, also there is no support for "... **applying said ... to produce an image transformation of said digital images ...**" in the

Art Unit: 2629

specification. How the parameters the image transformation of digital images performed is not described in the specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 7, 11, and 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 7, 11, and 20-22, “... **determining an instantaneous property of the display ...**” is not clear. What is instantaneous property of the display? How that instantaneous property of the display is determined?

Regarding claims 1, 7, 11, and 20-22, “... **determining a property of the digital image...**” is not understood. What is a property of the digital image? How is it determined?

Regarding claims 1, 7, 11, and 20-22, “... **determining parameters for an image processing method ...**” is not clear. What are the parameters? How are those parameters determined?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 7, 11, and 20-22 are rejected under 35 U.S.C. 102(e) as being unpatentable by **Siwinski** (US Patent 7,102,632).

As to claim 7, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)), an image memory for holding a digital image (fig. 3(42)), and an image improvement unit (fig. 3(38)) for improving said digital image displayed on the display unit (col. 2, lines 30-44), said image improvement unit (fig. 3(38)) being arranged to determine an instantaneous property of the display (col. 2, lines 30-44), determine a property of the digital image (col. 2, lines 30-38), and determine parameters for said image processing method at least partly on the basis of an instantaneous property of the display, and said property of the digital image (col. 1, lines 35-43, col. 2, lines 30-38); and

a display processor (fig. 3(38)) for processing the digital image by means of said image processing method, while applying said parameters so as to produce an image transformation of said digital image for presentation on said display (col. 2, lines 24-44).

Claims 1, 11, and 20-22 are rejected the same as claim 7.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632).

As to claim 2, Siwinski teaches a mobile device comprising a display unit (fig. 3(10)).

Siwinski does not specifically teach a method wherein all measures are repeated at a repetition rate.

However, it is obvious to one skill in the art that all measures of Siwinski's method are repeated at a repetition rate.

Art Unit: 2629

11. Claims 3–5, 8–10, 14–16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ouderkirk et al.** (Patent No. US 6124971).

As to claim 3 and 14, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Siwinski does not explicitly teach detecting a change in instantaneous properties of a display and repeating “determining and processing” measures when a change is detected.

Ouderkirk et al. teaches transreflective display wherein change between ambient and backlighting conditions can be detected, and the measure of polarization depending on those two conditions (col. 14, lines 34-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the change of the transreflective display as taught by Ouderkirk et al. with the mobile device of Siwinski because this will provide more efficient, low power consumption, and better brightness and contrast (col. 2, lines 13-17 of Ouderkirk et al.).

As to claim 4 and 15, Ouderkirk et al. discloses imaging on a display under ambient and backlighting conditions (col. 14, lines 49-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the techniques of Ouderkirk et al. the mobile

Art Unit: 2629

device of Siwinski to develop a method wherein determination of parameters is based on an operation mode of the display to achieve desired display appearance for different display applications.

As to claim 5, 8, and 16, Ouderkirk et al. teaches transfective displays with reflective polarizing which increases efficiency and brightness in display (fig. 7-8, col. 2, lines 20–26, col. 12–13, lines 41–46, 7–19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine transfective display of Ouderkirk et al. with the mobile device of Siwinski since it will provide low power consumption, better brightness, and increased contrast to produce easily read displays under both ambient and supplemental conditions (col. 2, lines 13-17 of Ouderkirk et al.).

As to claim 9 and 18, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine to incorporate a mobile device wherein said image improvement unit is provided in the display unit in order to improve the quality of display.

As to claim 10 and 19, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate a mobile device wherein an image improvement unit is provided outside the display unit and is arranged to communicate therewith in order to improve the quality of display.

12. Claims 6, 12, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ouderkirk et al.** (Patent No. US 6124971) and further in view of **Khan et al.** (Pub. No. US 20020101554).

As to claims 6, 12, 13, and 17, Siwinski (as modified by Ouderkirk et al.) teaches digital image processing on transfective display (col. lines 13–17, Ouderkirk et al.).

Siwinski (as modified by Ouderkirk et al.) does not teach any of the sub-methods of saturation increase, color componentwise histogram stretch, and unsharp masking in image processing method.

Khan et al. discloses a method for adjusting color saturation in a display device (page 14, [0145], [0148], fig. 19).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the techniques of Siwinski (as modified by Ouderkirk et al.) with Khan et al. is teachings of adjusting color saturation of a display because this will allow the display of Siwinski (as modified by Ouderkirk et al.) to have a greatly increased brightness and color purity of the display (col.14, [0145] of Khan et al.).

Response to Arguments

13. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFROZA Y. CHOWDHURY whose telephone number is (571)270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/508,933

Page 11

Art Unit: 2629

4/24/2008

/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629